



Pesticide Storage and Handling

Keeping Idaho's

Fact/Worksheet 2

Water Clean

Why should I be concerned?

Pesticides play an important role in agriculture. They protect crop yields and enable farmers to manage more acres with less labor. However, if pesticides are not handled carefully around the rural homestead they can seep through the ground after a leak or spill, or they can enter a well directly during mixing and loading. The responsible use of pesticides by farmers will help assure the availability of safe ground water for everyone.

Pesticides work by interfering with the life processes of plants, disease organisms, insects, and rodents. Many pesticides are also potentially toxic to people. Pesticides include herbicides, fungicides, insecticides, and rodenticides. If pesticides enter a water supply in large quantities, as can happen with spills or backsiphonage accidents, **acute health effects** (toxic effects apparent after only a single exposure) are possible. Effects will vary, depending on the toxicity of the pesticide and the amount of exposure. Using ground water with low levels of contaminants for drinking water supplies may result in **chronic exposure** (prolonged or repeated exposure to low doses of toxic substances), which may be hazardous to people and animals.

When pesticides are found in water supplies, they are rarely present in high-enough concentrations to cause acute health effects, which can include chemical burns, nausea, and convulsions. Instead, they typically occur at trace levels, and the concern is primarily their potential to cause chronic health problems from prolonged exposure.

Following appropriate management procedures will greatly reduce the possibility of your drinking water being contaminated. Handle and dispose of pesticides properly to avoid risking contamination that could affect the water supplies and health of others.

The goal of Home*A*Syst is to help you protect the environment and your drinking water.

How will these materials help me to protect my drinking water?

- It will take you step-by-step through your pesticide storage, handling, and disposal practices.
- It will rank your activities according to how they might affect the ground water that provides your drinking water supply.
- It will provide you with easy-to-understand rankings that will help you analyze the risk level of your pesticide storage, handling, and disposal practices.
- It will help you determine which of your practices are reasonably safe and effective, and which practice might require modification to better protect your drinking water.

How do I complete the worksheet?

After reviewing the information provided, follow the directions at the top of the chart on page 8. It should take you about 15 to 30 minutes to complete the worksheet and summarize your risk rankings.

Glossary

Pesticide Storage and Handling

These terms may help you make more accurate assessments when completing Fact/Worksheet 2. They may also help clarify some of the terms used.

Air gap: An air space (open space) between the fill hose and the spray tank water level, representing one way to prevent backflow of liquids into a well or water supply.

Anti-backflow (anti-backsiphoning) device: A check valve or other mechanical device to prevent the unwanted reverse flow of liquids back down a water supply pipe into a well.

Backflow: The unwanted reverse flow of liquids in a piping system.

Backflow prevention device: (See **anti-backflow device**.)

Back-siphonage: Backflow caused by formation of a vacuum in a water supply pipe.

Closed handling system: A system for transferring pesticides or fertilizers directly from container to application equipment that minimizes the chance of exposure to the handler or environment.

Cross-connection: A link or channel between pipes, wells, fixtures, or tanks carrying contaminated water and those carrying potable (safe for drinking) water. Contaminated water, if at higher pressure, enters the potable water system.

Micrograms per liter (ug/L): The weight of a substance measured in micrograms contained in one liter. It is equivalent to 1 part per billion in liquid measure.

Milligrams per liter (mg/L): The weight of a substance measured in milligrams contained in one liter. It is equivalent to 1 part per million in liquid measure.

Parts per billion (ppb): A measurement of concentration of one unit of material dispersed in one billion total units.

Parts per million (ppm): A measurement of concentration of one unit of material dispersed in one million total units.

Pesticide: A substance used as a management tool to control a plant disease, insect, or weed. Pesticides include herbicides, fungicides, insecticides, and rodenticides.

Rinsate: Rinse water from cleaning pesticide or fertilizer container.

Secondary containment: Impermeable floor and walls around a chemical storage area that allow pesticide recovery and minimize the amount of chemical seeping into the ground in case of a spill or leak.

Wash water: Solution containing very low concentrations of chemicals resulting from cleaning application equipment.



Improving Pesticide Storage and Handling

Keeping Idaho's - Water Clean

There are six important components of pesticide management on your homestead: 1) pesticide storage practices; 2) mixing and loading practices; 3) spill cleanup; 4) container disposal practices; 5) proper use according to label directions; and 6) other management practices.

When handling pesticides, wear proper protective clothing at all times. Personal protection is not addressed in **Home*A*Syst**, as its focus is ground water and drinking water protection. For more information on personal protection when handling pesticides, refer to label directions, contact your county Cooperative Extension System (CES) office or the Idaho Department of Agriculture (IDA) (see *Contacts and References* section).

1. Pesticide storage practices

If stored safely in a secure location, pesticides pose little danger to ground water. Common sense suggests keeping them dry and out of the way of activities that might knock over a jug or rip open a bag. Short-term storage (during seasonal use) poses a lower risk than year-round storage, but **any** storage regardless of length of time stored may pose a risk to ground water.

The risk of contamination increases the closer the pesticide storage area is to your well. Pesticide storage areas should be downslope and as distant from your well as possible to provide reasonable assurance well water will not be contaminated. Separation should be greater if the site has sandy soils or fractured bedrock near the land surface.

The risk of pesticide contamination of ground water is influenced by properties of both the pesticide and the soil on which it is spilled or applied. Several publications in the *Contacts and References* section provide more information on these topics. Also, *Worksheet A, Site Evaluation*, can help you rank your homestead soils and geologic conditions according to their ability to keep pesticides and other contaminants out of ground water.

Managing your existing storage facility

Proper management of your existing pesticide storage facility will often allow you to protect your water supply without major expense. Even when needed changes require expensive modifications to your facilities, keep in mind that compared to the cost of a contaminated well or a lawsuit, storage improvements can be a bargain.

The cheapest alternative you may have is to cut back on the amounts and types of pesticides stored, if practical. Also consider how you can protect the pesticides you keep in storage.

- Pesticide storage areas should be locked or pesticides stored in a locked cabinet out of reach of children and other unauthorized people. A locked storage cabinet or building provides security, prevents unauthorized use of pesticides, and reduces the chance of accidental spills or theft. It is recommended to provide signs or labels identifying the cabinet or building as a pesticide storage area. Areas in which pesticides are stored are required by state law to be posted as a pesticide storage area. For further information, call the Idaho Department of Agriculture (IDA), (208) 332-8500.
- Pesticides should always be stored in sound, properly labeled, original containers. Sound containers are your first defense against a spill or leak. If a container is accidentally ripped open or knocked off a shelf, the spill should be confined to the immediate area and **cleaned up immediately**.
- Steel shelves are easier to clean than wood if a spill occurs. Shelves for smaller containers should have a lip to keep the containers from sliding off.
- Store dry products above liquids to prevent wetting from spills. **Never store dry bagged materials under liquids.** Provide pallets to keep large drums or bags off the floor.
- Keep pesticides separate to prevent cross-contamination. Herbicides, insecticides, and fungicides should be kept on separate shelves or areas.
- If you plan to store large bulk tanks, provide a containment area large enough to confine 125 percent of the contents of the largest bulk container, plus the displaced volume of any other storage tanks in the area.
- Proper ventilation must be provided for enclosed storage areas. Check with IDA to see if your storage area falls under requirements for mandatory secondary containment.

Remodeling existing facilities that serve other uses may be less expensive than building a new facility, but remodeling can be complicated. When existing buildings must accommodate other activities, using them to store pesticides could compromise the safety of people and the environment. Storing pesticides in a separate facility reduces the risk associated with fire or accidental spills. **Never store pesticides inside a wellhouse or a facility containing an abandoned well.**

Fires in a pesticide storage area present a special hazard to people and the environment. You can reduce damages by anticipating emergencies. Entrances should be posted to alert fire fighters to the presence of pesticides and other products stored in the structure. It's a good idea to keep a list of the pesticides and amounts stored. Keep a copy of the list in the house or away from the storage area and keep it up-to-date.

If a fire should occur, consider where the surface runoff water will go and where it might collect. For example, a curb around a floor can help confine contaminated water. When making the storage area secure, also make it accessible, so you can get pesticides out in a hurry if feasible.

Building a new storage facility

Building a new facility just for pesticide storage may be expensive, but generally is safer than trying to modify areas meant for other purposes. If you build a new facility, apply the principles of safe pesticide storage mentioned above. Remember that this is your opportunity to provide the maximum amount of safety possible for your family and your drinking water supply. Safe storage can minimize the risk of spills around your pesticide storage area. If a spill does occur, an impermeable (waterproof) floor, such as coated or sealed concrete, should virtually eliminate any seepage of pesticides into the ground. Putting a curb around the floor will prevent chemicals from spreading to other areas.

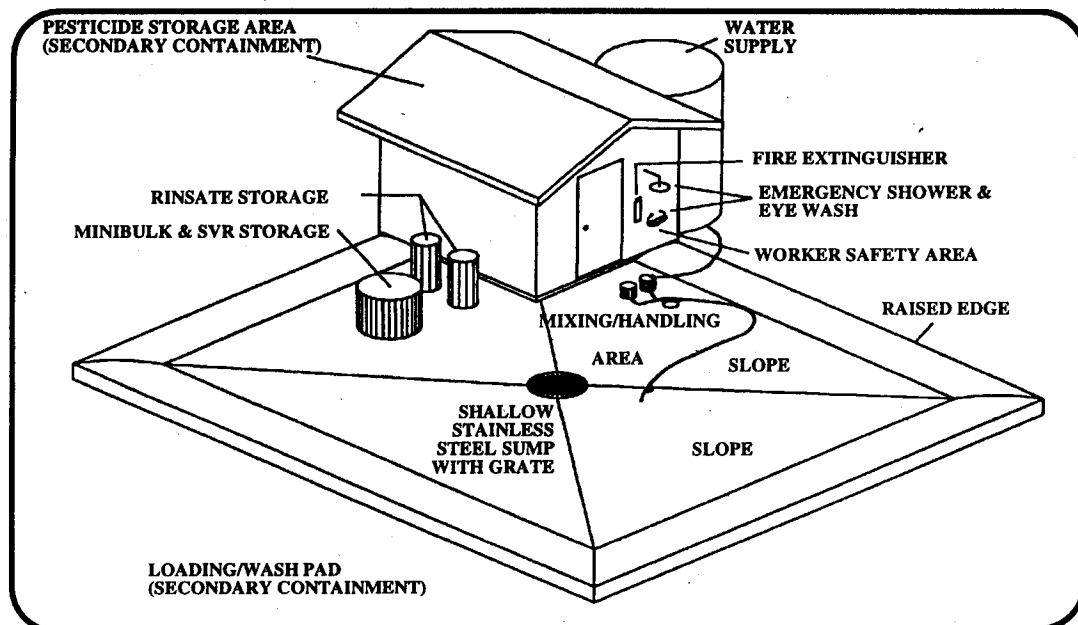


Figure 1: Farm-sized pesticide facility. Source: *Farm-Sized Mixing/Loading Pad and Agricultural Storage Facility*, by D.W. Kammel and D. O'Neil, presented at Summer Meeting of the American Society of Agricultural Engineers, June 24-27, 1990.

Secondary containment provides an impermeable floor and walls around the storage area, which will allow for the recovery of pesticide products if a bulk liquid pesticide storage tank should leak. Contact IDA for specifics on secondary containment rules which are being developed (208) 334-3550.

A mixing/loading pad provides for secondary containment and recovery of pesticide products during the transfer of pesticides to spraying equipment. Although sumps are recommended, there should not be any underground plumbing or storage tanks.

For information on other factors to consider when designing a storage facility, such as ventilation, temperature control, and worker safety, contact your county Cooperative Extension System office, or the Idaho Department of Agriculture.

2. Mixing and loading practices

Ground-water contamination can result even from small spills in the mixing and loading area. Small quantities spilled regularly in the same place can go unnoticed, but the chemicals can build up in the soil and eventually reach ground water. Mixing and loading on an impermeable surface, such as coated or sealed concrete, will allow containment of spilled pesticides for recovery and use as intended. Spills should be cleaned up immediately.

A mixing and loading pad

Containing pesticide spills and leaks requires an impermeable (waterproof) surface for mixing and loading. The pad should be large enough to contain leaks from bulk tanks, wash water from cleaning equipment, or to collect inadvertent spills and prevent the transfer of chemicals to the sprayer or spreader (Figure 1).

The size of the pad depends also on the equipment you use. It should provide space around the parked equipment for washing and rinsing. Having several rinsate (rinse water) storage tanks allows you to keep rinsate from different chemicals separate. That way, the rinsate can be used as mixing water on subsequent compatible loads.

Locate the pad next to the storage area. At sites where runoff water could reach the well, construct a diversion so runoff is directed to another area.

If you are considering constructing a mixing and loading pad, contact your county Cooperative Extension System office, the Cooperative Extension System agricultural engineer at (208) 885-7627 or the Idaho Department of Agriculture for more detailed information.

Better management of your existing mixing and loading site

Even if you don't have an impermeable mixing and loading pad, you can minimize contamination by following some basic guidelines:

- Avoid mixing and loading pesticides near your well. One way to do this is to mix and load pesticides at the field to be sprayed using a nurse tank to transport water. Mixing should not be done routinely in the same place.
- Avoid mixing and loading on gravel driveways or other surfaces that allow spills to travel or move quickly through the soil. A clay surface is better than sand or gravel.
- Install a backsiphon or back flow prevention device on the well or hydrants to prevent reverse flow of liquids into the water supply. Never submerge the hose end inside the sprayer tank. Provide an air gap of six inches between the hose and the top of the sprayer tank, free fall the water into tank or use oversize slotted pipe extended out of the tank.
- Always supervise or observe sprayer filling. For restricted-use pesticides, a trained and certified applicator must supervise operations.
- Consider a closed handling system which transfers the pesticide directly from the original container to applicator equipment (through a hose, for example). Humans and the environment are never inadvertently exposed to the pesticide with this system.
- Use rinsate for mixing subsequent compatible loads. Spray the rinsate according to label directions. Ideally, rinsate should be used on the application location from which the rinsate was created.

3. Spill cleanup procedures

For dry spills, promptly sweep up and use the pesticide as it was intended. Dry spills are usually very easy to clean up. For liquid spills, recover as much of the spill as possible. Recovery in the original liquid form is recommended. Otherwise use soil, sawdust, or other absorbent material, and place it in a sealable container. It may have to be disposed of as hazardous waste. Contact a hazardous material contractor, IDA, or DEQ for disposal procedures.

Spills are generally considered a threat to human health or the environment. Spills or discharges to water should be reported immediately. Immediate clean up is urgent to prevent migration to ground water, wells, and waterways. Spills to porous soils should be reported immediately.

Spills within or discharges to containment structures should be cleaned up in a timely manner. For example, shop floors, concrete pads, or drip pans could be considered barriers to the environment if they prevent contact with the environment. Containment structures are not to be used to store or accumulate dangerous or hazardous wastes.

For further information or assistance or to report spills, contact the Idaho Department of Agriculture at (208) 332-8610, Idaho Emergency Response Commission, Idaho Communication Centers (Poison Control) (800) 632-8000, or the EPA Hotline (208) 424-4372.

4. Container disposal practices

Unrinsed and improperly stored containers can lead to ground-water contamination by allowing chemical residues to leak onto the ground. Some basic guidelines can help avoid similar problems:

- As often as possible, use returnable containers and minibulks and take them back to the dealer.
- Pressure-rinse or triple-rinse plastic and metal containers **immediately** after emptying, since residue can be difficult to remove after it dries. Pour rinse water into the spray tank. Puncture or cut rinsed containers and store them in a dry storage area until you can take them to a container recycling event or to a permitted landfill.
- Shake out bags, bind or wrap them to minimize dust, and take them to a permitted landfill.
- Due to current and future health risks, do not bury or burn pesticide containers or bags on the farm.

Your drinking water is least likely to be contaminated if you follow appropriate management procedures and properly recycle or dispose of pesticide containers.

For more information about proper recycling or disposal of pesticide containers, contact the Idaho Department of Agriculture (208) 332-8500 or refer to *Fact/Worksheet 5, Improving Farm and Home Waste Management*.

5. Other management practices

Pesticide management and reducing pesticide waste makes financial as well as environmental sense, but it means more than just reducing spills. It also means not buying more than you need to apply for the current year, keeping records of what you used and have on hand, and using older products first.

- Buying only what you need makes long-term storage unnecessary. In addition, you avoid cold weather problems, which can make some pesticides useless.
- Federal USDA record keeping requirements are applicable to farmers utilizing restricted use pesticides (RUPS). Keeping accurate records of commercial pesticide applications is required by state law. Contact IDA at (208) 332-8500. Record keeping may seem like a task unrelated to ground-water contamination, but knowing what you've used in the past and what you have on hand allows you to make better purchasing decisions.
- Keep records of past field application rates and their effectiveness. Keep field records and add information such as the manufacturer's name and address, types, and handling precautions. This information can be important if you must respond quickly to an accident or wish to review historical pesticide use on a field for crop rotation or crop yield information.

Worksheet 2

Pesticide Storage and Handling: Assessing Drinking Water Contamination Risk

1. Use a pencil. You may want to make changes.
2. For each category listed on the left that is appropriate to your homestead, read across to the right and circle the statement that best describes conditions on your homestead (skip and leave blank any categories that don't apply to your homestead).
3. Then look above the description you circled to find your "rank number" (4, 3, 2, or 1) and enter that number in the blank under "your rank."
4. Complete the section "What do I do with these rankings?"
5. Allow about 15 to 30 minutes to complete the worksheet and summarize your risk ranking for pesticide storage and handling practices.

	LOW RISK (rank 4)	LOW-MOD RISK (rank 3)	MOD-HIGH RISK (rank 2)	HIGH RISK (rank 1)	YOUR RANK
PESTICIDE STORAGE (Addressed in Section 1)					
Amount stored	No pesticides stored at any time.	Less than 1 gallon or less than 10 pounds of each pesticide.	Less than 30 gallons or less than 300 pounds of each pesticide.	More than 30 gallons or more than 300 pounds of each pesticide.	
Types stored:					
Leachability	No chemicals stored.	Chemicals classified as having low leaching potential.	Chemicals classified as having medium leaching potential.	Chemicals classified as having high leaching potential.	
Liquid or dry formulation	No liquids. All dry.	Some liquids. Mostly dry.	Mostly liquids. Some dry.	All liquids.	
Location of pesticide storage area in relation to well	400 feet or more downslope from well.	150-400 feet downslope from well.	100-150 feet downslope from well.	Within 100 feet or upslope from well. Storage in well or pump house or a well lot.	
Spill or leak control in storage area	Impermeable surface (such as coated or sealed concrete) does not allow spills to soak into soil. Curb installed on floor to contain leaks and spills.	Uncoated concrete surface with curb has some cracks, allowing spills to get to soil, or uncoated concrete surface without cracks has no curb.	Permeable surface (wooden floor) has some cracks. Impermeable surface has no curb. Spills could contaminate wood or soil.	Permeable surface (gravel or dirt floor). Impermeable surface with drain to a dry well. Spills could contaminate floor.	

	LOW RISK (rank 4)	LOW-MOD RISK (rank 3)	MOD-HIGH RISK (rank 2)	HIGH RISK (rank 1)	YOUR RANK
PESTICIDE STORAGE (continued)					
Containers	Original containers clearly labeled. No holes, tears, or weak seams.	Containers fairly new. Labels partially missing or hard to read.	Original containers old. Labels partially missing or hard to read.	Containers are patched or have holes or tears that allow pesticides to leak. Metal containers show signs of rusting. No labels.	_____
Security	Fenced and locked area separate from all other activities.	Fenced area separate from most other activities.	Open to activities that could damage containers or spill chemicals.	Open access to theft, vandalism, children, or unauthorized persons.	_____
MIXING AND LOADING PRACTICES (Addressed in Section 2)					
Location of mixing/ loading area in relation to well	400 feet or more downslope from well. Mixing and loading done in field.	150-400 feet downslope from well.	100-150 feet down-slope from well.	Within 100 feet or upslope from well.	_____
Mixing and loading pad (spill containment)	Covered concrete pad with curb. Transfer sump for collection cleaned after each use.	Uncovered concrete pad with curb. Transfer sump cleaned periodically.	Concrete pad with some cracks. No curb or transfer sump.	No pad. Spills soak into ground.	_____
Backflow prevention on water supply	Anti-backflow device installed or six-inch air gap maintained above sprayer tank. Hose never in tank.	Anti-backflow device installed. Hose in tank above waterline.	No anti-backflow device. Hose in tank above waterline.	No anti-backflow device. Hose in tank below water line.	_____
Water source	Separate water tank.	_____	_____	Obtained directly from water well, stream, or pond.	_____
Boldface type in high risk column: Besides representing a higher-risk choice, this practice also violates Idaho law or pesticide label.					

	LOW RISK (rank 4)	LOW-MOD RISK (rank 3)	MOD-HIGH RISK (rank 2)	HIGH RISK (rank 1)	YOUR RANK
MIXING AND LOADING PRACTICES (continued)					
Filling supervision	Constant by certified individual.	Constant by uncertified individual.	Frequent.	Seldom or never. Occasionally overflows.	_____
Handling system	Closed system for all liquid and dry product transfers.	Closed system for most liquids. Some liquid and dry product hand poured. Sprayer fill port easy to reach.	All liquids and dry product hand poured. Sprayer fill port easy to reach.	All liquids and dry product hand poured. Sprayer fill port hard to reach.	_____
Sprayer cleaning	Sprayer washed out in field.	Sprayer washed out on curbed pad at homestead.	Sprayer washed out on non-curbed pad at homestead.	Sprayer washed out at homestead. No pad.	_____
Wash water (rinse water) disposal	Wash water used in next load and applied to labeled crop.	Wash water stored for later use and applied to labeled crop.	Wash water sprayed on open areas around homestead.	Wash water dumped at homestead or in field.	_____
CONTAINER RINSING AND DISPOSAL (Addressed in Section 4)					
Container rinsing	Container pressure- or multiple-rinsed at time of application. Rinsate used in current application.	Container pressure- or multiple-rinsed at time of application. Rinsate stored for use at a later time.	Containers rinsed at a later time. Rinsate sprayed out in same location every time.	Containers unrinsed and not stored in pesticide storage shed.	_____
Disposal location	Container pressure- or multiple-rinsed at time of application. Container disposed of through recycling program or returned to dealer.	Container pressure- or multiple-rinsed at time of application. Rinsed container disposed of at approved landfill.	Containers rinsed at a later time. Rinsed container disposed of on property.	Unrinsed or partially filled containers, or empty bags disposed on property or at approved landfill.	_____

Boldface type in high risk column: Besides representing a higher-risk choice, this practice also violates Idaho law or pesticide label.

What do I do with these rankings?

Step 11: In this final step, summarize your risk scores by checking the appropriate box for each category you answered on this worksheet.

Improving Pesticide Storage and Handling Risk Rankings Summary

CATEGORY	Risk Rank			
	Low 4	3	2	High 1
Amount stored				
Leachability				
Liquid or dry formulation				
Location of storage area in relation to well				
Spill or leak control in storage area				
Containers				
Security				
Location of mixing/loading area in relation to well				
Mixing and loading pad				
Backflow prevention on water supply				
Water source				
Filling supervision				
Handling system				
Sprayer cleaning				
Wash water (rinse water) disposal				
Container rinsate				
Disposal location				

Step 2: Look over your rankings for individual activities

High Risk Practices (1) Pose a high risk for your health and for contaminating ground water.

Moderate to High Risk Practices (2) Are inadequate protection in many circumstances.

Low to Moderate Risk Practices (3) Provide reasonable ground-water protection.

Low Risk Practices (4) Are ideal; try to make this your goal.

Any shaded rankings require immediate attention. Some concerns you can take care of right away; others could be major or costly projects, requiring planning and prioritizing before you take action. The long term goal of the Home*A*Syst program is to improve homestead practices and structures so that they are classified as low risk. Activities classified as low risk generally reflect best management practices.

Transfer any activities that you ranked in the shaded areas in step 1 to the "High-Risk Activities" on pages two, three, and four of Worksheet B.

Step 3: Read the materials provided in this document, if you haven't already. Consider how you might modify your homestead practices to better protect your drinking water.

Contacts and References

Who to call about...

General pesticide information

- National Pesticide Telecommunication Network, (800) 858-PEST(7378). Provides 24-hour information (365 days a year) on pesticide poisoning, pesticide products, pesticide cleanup and disposal, enforcement contacts, pesticide certification and training programs, and pesticide laws.
- Idaho Poison Control Center, (800) 632-8000. The center provides information on who to contact in case of exposure to or spill of pesticides or any toxic substance.

Health effects of pesticides in drinking water

- Idaho Department of Health and Welfare, Idaho Department of Agriculture (208) 332-8500, or your local public health district for all health related issues. The reporting numbers for the DEQ regional offices are:

North (Coeur d' Alene):	(208) 769-1422
North Central (Lewiston):	(208) 799-4370
Southwest (Boise):	(208) 373-0550
South Central (Twin Falls):	(208) 736-2190
Southeast (Pocatello):	(208) 236-6160
Eastern (Idaho Falls):	(208) 528-2650

Drinking water quality and treatment and health advisories

- EPA Safe Drinking Water Hotline, Monday through Friday, 5:30 a.m. to 3 p.m. Pacific Standard Time, call (800) 426-4791. DEQ can be reached at the numbers above.

Further information on chemicals

- Chemical Referral Center, sponsored by the Chemical Manufacturers Association. Call (800) 262-8200. The Center will refer a caller to the manufacturer of the chemical in question. It will also provide telephone numbers of other hotlines that address chemicals.

Pesticide storage, handling, disposal, and safety

- Your county Cooperative Extension System office, University of Idaho Ag. Engineer, or the IDA Division of Agriculture Technology (208) 332-8500, has extensive information on many facets of chemical pesticides, including environmental fate and human health effects.

What to read about...

Publications are available from sources listed at the end of the reference section (Refer to number in parentheses after each publication).

Health effects

- The product label. Read your product labels carefully for specific information on pesticide health effects.
- *Toxic Substances Fact Sheet: Pesticides*, 1988. Washington Department of Health. (6)
Discusses sources, types, uses, and health effects of pesticides.
- *Health Advisory Summaries*. 1989. U.S. Environmental Protection Agency, Washington, D.C. (2)
Prepared for nearly 60 substances with potential to reach drinking water, each two-page Health Advisory Summary describes a pesticide, its brand names, its potential health effects, suggested action steps, and where to go for more information.
- *First Aid for Pesticide Poisoning*, PNW0278 (1)

Pesticide storage, handling, disposal, and safety

- *Your Home, Your Health, and Pesticides*, 1990. (1)
- *A Consumer's Guide To Safer Pesticide Use*. 1987. (3) Free 25-page special reprint from the EPA Journal.
- *Chemicals in Your Community: A Guide to Emergency Planning and Right To Know Act*. 1988. (3) Contains information on implications of this law for farmers.
- *Disposing of Crop Protection Chemical Containers*. 1990. (6) ACRE Fact Sheets, numbers 5 and 12. Fact Sheet 5 provides an eight-point check list of procedures to follow for safe disposal of chemical containers. Fact Sheet 12 discusses pressure-rinsed and triple-rinsed containers and rinsed container disposal.
- *Constructing an Inexpensive Chemical Rinse Pad*. 1990. (6) ACRE Fact Sheet 14. Discusses capturing wastewater, storage of chemicals, site selection, and the design of a simple rinse pad.

Integrated pest management and other alternative pest control strategies

- *Puget Sound Pest Management Guidelines Manual*, 1993. (1) A comprehensive manual that addresses chemical and integrated pest management (IPM) strategies, and costs and benefits of both.
- *Concepts of Integrated Pest Management in Washington*, EB0753 (1) The Washington Toxics Coalition provides an extensive information service on alternative pest control methods (4).

Publications available from...

- Your county Cooperative Extension System office.
- For more information on how to obtain full health advisories or health advisory summaries, call the EPA's toll free Safe Drinking Water Hotline, (800) 426-4791, 5:30 a.m. to 3:00 p.m. Pacific Standard Time.

NOTES



The Homestead Assessment System is a cooperative project developed, coordinated, and supported by the following agencies and organizations:

Idaho Association of Soil Conservation Districts (IASCD)
Idaho Department of Agriculture (IDA)
Idaho Department of Health and Welfare-Division of
Environmental Quality (IDHW-DEQ)
Idaho Department of Water Resource (IDWR)
Idaho Public Health Districts
Idaho Soil Conservation Commission (SCC)
Idaho Water Resources Research Institute (IWRRI)
University of Idaho-Cooperative Extension System (CES)
USDA-Farm Service Agency (FSA)
USDA-Natural Resources Conservation Service (NRCS)
USDA-Rural Economic and Community Development
(RECD)
U.S. Environmental Protection Agency (EPA)

Adapted for Idaho from material developed by the **Washington Home *A* Syst and Wisconsin Farm*A*Syst Programs**. **Idaho Home*A*Syst** development was supported by the **National Farmstead Assessment Program**.

Information derived from **Home*A*Syst** worksheets is intended only to provide general information and recommendations to rural residents regarding their own homestead practices. All results are confidential.

Programs and policies are consistent with federal and state laws and regulations prohibiting discrimination on the basis of race, color, religion, national origin, sex, age, disability, political beliefs, and marital or familial status. Trade names have been used to simplify information; no endorsement is intended.
Published 1996.